

transporting the modulated light signal through an optical link to an optical receiver;
demodulating the modulated light signal in the optical receiver to produce a second
electrical signal representative of the audio; and
reproducing the audio in a headset speaker element by applying the second electrical
5 signal to the headset speaker element.

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JAN 23 2006

31. (Withdrawn) The method of Claim 30, wherein the producing step comprises:
pulse width modulating a laser light emitting diode based on the first electrical signal to
produce the modulated light signal.

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32. (Withdrawn) The method of Claim 30, wherein the demodulating step comprises:
receiving the modulated light signal from the second end of the optical link in a photo-
voltaic cell, wherein the photo-voltaic cell produces the second electrical signal representative of
the audio.

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33. (Withdrawn) A method for receiving audio from an electro-optical microphone,
the method comprising:

producing a source light in an optical transceiver;

transporting the source light through an optical link from the optical transceiver to a
20 microphone element;

modulating the source light in the microphone element to produce a modulated light
signal representative of the audio;

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transporting the modulated light signal through the optical link from the microphone element to the optical transceiver; and

demodulating the modulated light signal in the optical transceiver to produce a first electrical signal representative of the audio.

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34. (Withdrawn) The method of Claim 33, wherein the modulating step comprises the steps of:

receiving sound waves representative of the audio in an electrical microphone;

producing a second electrical signal based on the sound waves in the electrical microphone; and

attenuating the source light by an electro-optical shutter in response to the second electrical signal to produce the modulated light signal.

35. (Previously presented) A system comprising:

15 a mobile station;

an electro-optical interface for receiving a first electrical signal from the mobile station representative of first audio, and for producing a first modulated light signal based on the first electrical signal, and for receiving a second modulated light signal and demodulating the second modulated light signal to produce a second electrical signal for transmission to the mobile station

20 representative of second audio;

an optical link having a first end and a second end, the first end being coupled to the electro-optical interface for receiving the first modulated light signal and for transmitting the second modulated light signal;

an optical receiver coupled to the second end of the optical link for receiving the first modulated light signal, and for demodulating the first modulated light signal to produce a third electrical signal representative of the first audio;

a headset speaker element electrically connected with the optical receiver for receiving
5 the third electrical signal and producing first sound waves based on the third electrical signal;
and

a microphone element coupled to the second end of the optical link for receiving the first modulated light signal and for transmitting the second modulated light signal, and for modulating the first modulated light signal to produce the second modulated light signal representative of the
10 second audio;

wherein the microphone element comprises:

an electrical microphone for receiving second sound waves representative of the second audio and for producing a fourth electrical signal based on the second sound waves;

15 an electro-optical shutter electrically connected to the electrical microphone for receiving the first modulated light signal and modulating the first modulated light signal to produce the second modulated light signal, wherein the second modulated light signal is representative of the fourth electrical signal; and

a directional optical coupler for receiving the first modulated light signal from the
20 second end of the optical link and directing the first modulated light signal to the electro-optical shutter, and for receiving the second modulated light signal from the electro-optical shutter and directing the second modulated light signal to the second end of the optical link.

36. (Cancelled)

37. (Previously presented) The system of Claim 35, wherein the electro-optical
5 shutter is a liquid crystal display element.

38. (Previously presented) The system of Claim 35, wherein the electrical
microphone is a piezoelectric microphone.

10 39. (Original) The system of Claim 35 wherein the first modulated light signal is
generated by a laser light emitting diode.

40. (Withdrawn) An electro-optical headset comprising:

15 an optical driver for receiving a first electrical signal representative of audio and for
producing a modulated light signal based on the first electrical signal, wherein the optical driver
produces the modulated light signal by modulating a laser light emitting diode based on the first
electrical signal;

an optical link having a first end and a second end, the first end being coupled to the
optical driver for receiving the modulated light signal;

20 an photovoltaic cell coupled to the second end of the optical link for receiving the
modulated light signal and demodulating the modulated light signal to produce a second
electrical signal representative of the audio; and

a headset speaker element electrically connected with the optical receiver for receiving the second electrical signal and producing sound waves based on the second electrical signal.

41. (Withdrawn) An electro-optical microphone comprising:

5 an optical transceiver for producing a source light and for receiving a modulated light signal, and for producing a first electrical signal representative of audio based on the modulated light signal, and wherein the source light is generated by a laser light emitting diode;

an optical link having a first end and a second end, the first end being coupled to the optical transceiver for receiving the source light and for transmitting the modulated light signal;

10 an electrical microphone for receiving sound waves representative of audio and for producing a second electrical signal based on the sound waves;

a liquid crystal display element electrically connected to the electrical microphone for receiving the source light and modulating the source light to produce the modulated light signal;

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